

for so small a variation in aspect, the error in the assumed fixity is not likely to be great."

To find the Error and Rate of a Chronometer from the observed Transits of Three Stars near the Meridian. By Capt. Shortrede.

This is not a problem of frequent occurrence, but it did present itself to Capt. Shortrede on the first day of his observations at Dera.

His solution is to the following effect:—The transit is supposed to be adjusted for level and collimation, or, which is the same thing, the observations are corrected for these errors. Each observation, when compared with the apparent R.A. of the star, furnishes an equation with three unknown quantities, viz. the *clock error* at the first observation, the *azimuthal error* with a known coefficient (the latitude being known approximately), and the *rate*, which has for a co-efficient the time from the first observation. From these equations the azimuthal error and clock error may easily be deduced if the stars be properly selected; and the rate will be found, unless the stars observed are too near the pole, or follow each other too closely. It would generally be more advisable to get the *rate* from one or more pairs of known stars near the equinoctial, the first of each pair being observed at the beginning and the last at the end of the night's work.

Captain Shortrede wishes it to be remarked "that the limitation in M.N. p. 160, with respect to the polar distance of the star, is unnecessary when the elongations are observed on both sides of the meridian. Errors in the assumed latitude or polar distance of the star will, in this case, correct each other."

Extract of a Letter from Dr. Lee to the Secretary.

"I take leave to offer to the Society for its acceptance an original painting of Mr. Joseph Middleton, who founded, in 1717, the respectable and useful Society of Mathematicians in Spitalfields; the worthy surviving members of which, by the recent act of union, are now Fellows of the Royal Astronomical Society.

"Little is known concerning the life and adventures of this worthy man. It is conjectured that he was the mate or captain of a vessel in the merchant service, and that in the later portion of his life he gave instructions in mathematics, and particularly in those branches which relate to navigation, in the neighbourhood of Spitalfields.

"In the Library of the late Mathematical Society is a manuscript in folio, relating to arithmetic, algebra, and navigation, which is supposed to have belonged to and to have been composed

by him : from the contents of this volume he probably gave his lectures. It is believed that he died between 1725 and 1730.

“ Since this portrait came into my possession it has been repaired by Mr. Edwin Holder, a skilful artist, from a copy which was made at the request of the Mathematical Society by Mr. Saubergue, about the year 1835.

“ The copy is in my possession, and it agrees in its general character with the original, and differs in some of the minor details.

“ I am informed by Mr. Williams that Mr. Saubergue was an artist of much merit, and that he died at the age of twenty-four.”

“ Mr. T. B. Honegger, architect, has discovered, at HAMAM EL BAS, 72 geographical miles from Tunis, a fragment of a Punic monument upon which a constellation* is represented by round holes of equal size over three figures in relief. The middle figure is a female, barefooted, with naked arms, and wrapped up in a long garment; a tower-crown is upon her head, to which the royal cloak is fastened, which hangs over her shoulders and knees. In her right hand she holds a large artichoke, and in the left a double cornucopia, with the hasta which rests on the head of a ram at her feet. On her right hand stands Mars, and on her left Mercury.

“ From the time of planting the artichoke and shearing sheep in that country (to which it is conjectured that the abovementioned symbols refer), it may be thought probable that the figure represents the goddess Athir and the month April.”

Mr. Hind says,—“ Since June 30 the *new star* has appeared of the 7·8 mag., and is therefore very slowly diminishing. Its colour is still very red.”

Mr. Woolgar remarks,—“ There is a considerable difference in the estimated magnitude of another star in the same neighbourhood :—

* = Bode 152 <i>Oph.</i>	6	mag., <i>his own observation.</i>
= H.C. 31341	8	—
= Weisse xvii. 110	7·8	—

M. Rümker remarks, “ that there is a star of the ninth magnitude twice observed by Lalande, and also by Bessel, of which the apparent place is, according to Bessel,

1848, July 2. R.A. $22^{\text{h}} 21^{\text{m}} 2^{\text{s}}.65$. N.P.D. $100^{\circ} 42' 23''.3$.

“ Now close to this star I find another star of the seventh magnitude, mentioned neither by Lalande nor Bessel, the apparent place of which is

1848, July 2. R.A. $22^{\text{h}} 21^{\text{m}} 2^{\text{s}}.51$. N.P.D. $100^{\circ} 42' 19''$.

* The configuration is given of 7 stars, which somewhat resemble the square in *Pegasus*.